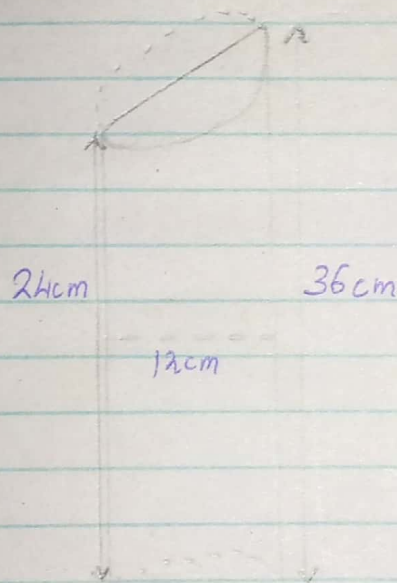## ITEM 1.

A certain shopkeeper plans to either make a cylindrical container or buy a ready-made one for scooping Sugar from the storage sack, as shown in the figure.

Each Square centimeter of the material costs UGX 250. The shopkeeper needs to know the maximum amount of sugar the container can hold and decide whether to make it or buy a ready-made container. The labor cost for making the container is Ugx 12,000. The ready-made container costs. Ugx. 119,300

2Hcm   36cm

12cm

(a) What is the maximum amount of Sugar ē cylindrical container can hold.

b, Based on calculations, should the shopkeeper make or buy the ready-made container.

ITEM 2.

The university owns a triangular piece of land in a particular community & people have been encroaching on it. The land measures 650m by 720m with an angle of 75° between these sides. To address this problem and clearly define the boundaries, the university council has constructed a circular fence that touches each vertex of the triangular land. The fence's labour cost is 12 Us D

per meter, and the construction materials amounted to Ugt.
10,567,800. Use exchange rate $11 = Ugx 3916.2

Task
(a) What is the area of the piece of land owned by university. (Justify the response)

(b) How much will the university spend on constructing the fence.